

REMARKS

In view of the above amendments and the following remarks, reconsideration of the objections and rejections contained in the Office Action of April 20, 2006 is respectfully requested.

The Examiner objected to the specification due to various informalities. In particular, the Examiner requested that line 2 of paragraph [0060] of the specification be amended so as to clearly refer to Figure 2, and also apparently requested that paragraphs [0077] through [0083] of the specification be amended so as to clearly indicate that the description provided therein is a description of a fourth embodiment. In view of these objections, and in order to make various additional editorial corrections, the entire specification has now been reviewed and revised as indicated above. However, all of the revisions are directed merely to matters of form, and no new matter has been added. Consequently, the Examiner is respectfully requested to enter the amendments to the specification as indicated above.

On pages 2-4 of the Office Action, the Examiner has set forth various objections to the specification. Because these objections are not entirely clear, they will be discussed separately below.

Firstly, in item 2 spanning pages 2 and 3 of the Office Action, the Examiner objected to claims 1-9 as being *indefinite* because they fail to particularly point out and distinctly claim the subject matter which the Applicants regard as their invention. The Examiner also asserted that the Applicants did not provide a sufficient *written description* to explain a portion of the invention. Thus, although the Examiner merely *objected* to the original claims, the Examiner used language which would appear to indicate that the claims have been rejected on formal grounds under 35 U.S.C. § 112, second paragraph (indefiniteness) and first paragraph (written description). However, the Examiner's additional comments in item 2 of the Office Action do not appear to support such rejections. Specifically, the Examiner asserted that the Applicants did not explain why an auxiliary battery set up is *necessary*. These comments appear to be directed to a critique of the invention and the advantages achieved from the invention, rather than a criticism of the claim language. In addition, the Examiner asserted that the auxiliary battery "can

only be recharged through the main battery,” and this assertion has no support in the disclosure, is clearly not recited in the claims, and is therefore not a limitation. Consequently, even the Examiner’s critique of the invention appears to be unfounded. Thus, to the extent that the Examiner’s “objections” can be understood, it is respectfully submitted that the amended and new claims clearly comply with all of the requirements of 35 U.S.C. § 112, and the Examiner is requested to withdraw this objection. If, however, the Examiner still believes that this (or a similar) objection is still applicable to the claims, the Examiner is kindly requested to clarify the specific objection to the claim language.

In item 3 spanning pages 3 and 4 of the Office Action, the Examiner also rejected claims 7-9 as “failing to be *patentably distinct* from pervious independent claims 1 and 5-6, respectively” (emphasis added). As with the Examiner’s objection to claims 1-9 discussed above, this objection is also unclear. If this is intended to be a double patenting rejection, then the Examiner is requested to clearly set forth the grounds for such rejection. Otherwise, the Examiner is reminded that the Applicants can claim their invention in separate claims using different claim language, and (without agreeing or disagreeing with the Examiner’s assertion) there is no requirement that the separate claims be patentably distinct from each other. Consequently, the Examiner is also requested to withdraw or clarify this objection to the claims.

On pages 4-11 of the Office Action, the Examiner has set forth prior art rejections of pending claims 1-9. In particular, the Examiner has rejected claims 1, 2, and 5-9 as being unpatentable over the Kirkhart reference (US 6,059,843) in view of the Amano reference (US 6,806,588); rejected claim 3 as being unpatentable over the Kirkhart reference in view of the Amano reference, and further in view of the Gillespie reference (US 6,393,573); and rejected claim 4 as being unpatentable over the Kirkhart reference in view of the Amano reference, and further in view of the Amano reference (US 4,688,036). However, these rejections are respectfully traversed. For the reasons discussed below, it is respectfully submitted that independent claims 1 and 5-9, as well as the claims that depend therefrom, are clearly patentable over the prior art of record.

As explained on pages 1-5 of the specification, computer systems installed in modern vehicles are somewhat complicated and, therefore, often require some time to “boot up” after being turned on. Unfortunately, this required boot up time often causes delay and aggravation for the user of the vehicle. The present invention has been developed in order to address this problem.

In particular, each of amended independent claims 1 and 5-9 is directed to a system which includes an auxiliary battery control section for booting up a computer in a vehicle by starting the power supply *from an auxiliary battery to the computer*. In addition, a *power source switching section* is provided for stopping a power supply from the auxiliary battery to the computer and starting a power supply from the main power source to the computer when an ignition key detecting section detects that the ignition key *is switched from OFF to ON* while the power is supplied from the auxiliary battery.

In each of the independent claims of the present application, the auxiliary battery starts a supply of power from an auxiliary battery to a computer *before* the ignition key is switched from OFF to ON. Therefore, the amount of time that a user of the vehicle must wait for the computer to boot up after the ignition is turned on is minimized or eliminated. Furthermore, once the ignition key has been switched to ON (which is not necessarily after the computer has completed booting up), the power supply to the computer is switched by the power source switching section from the auxiliary battery to the main power source. In other words, the main power source only needs to be able to provide power to the computer *after* the ignition key has been turned to the ON position. Therefore, the main power source can be some form of generator which operates only during normal operation of the engine, or can be a main battery. Furthermore, if the main power source is a main battery, the computer can properly boot up using the auxiliary battery even if the charge level of the main battery is low, thereby maintaining enough charge in the main battery for engine start-up.

The Kirkhart reference is directed to a vehicle navigation system with only *one* battery having two operating modes - a full power mode and a lower power mode. The battery generally operates in the low power mode if the engine of the vehicle is not running, and is switched from

the low power mode to the full power mode if a warm up signal is received by, for example, a door being opened. However, even in the low power mode, the charge of the main battery is being decreased, which can potentially drain the battery and prevent the engine from being started. In contrast to the Examiner's assertion in line 6 on page 5 of the Office Action, the Kirkhart reference merely teaches two operating modes of *one single* battery. Thus, the Kirkhart reference clearly does not disclose or suggest an auxiliary battery control section for booting up a computer by starting a power supply from an *auxiliary battery* to the computer. Moreover, the Kirkhart reference teaches that the operating mode is switched from the low power mode to the full power mode after completion of the boot up of the computer. Therefore, the Kirkhart reference also does not disclose or suggest a power source switching section for stopping a power supply from the auxiliary battery to the computer and for starting a power supply from the main power source to the computer when the ignition key is switched to the ON position during supply of power from the auxiliary battery (which is not necessarily after completion of the computer boot-up).

The Amano reference teaches a power controller for a vehicle, and the Examiner asserted that the Amano reference teaches an auxiliary battery and a power source switching section which stops a power supply from the auxiliary battery. However, as explained in column 3, lines 39-40, the auxiliary battery of the Amano reference is connected to a 14V system for powering lamps, rather than a computer. Moreover, the Amano reference also does not disclose or suggest a power source switching section for stopping a power supply from the auxiliary battery to the computer and for starting a power supply from the main power source to the computer when an ignition key is switched to the ON position during power supply from the auxiliary battery. In other words, the Amano reference does not disclose or suggest that the auxiliary battery of the Amano reference supplies power to *any* component *before* the ignition key is switched to the ON position, and thus clearly does not teach or suggest that the auxiliary battery supplies power to a *computer* before the ignition key is switched to the ON position. In this regard, the Examiner referred to steps s170, s180 and s190 of Figure 2 of the Amano reference, but these steps clearly

do not indicate that power is supplied from the auxiliary battery before the ignition key is in the ON position. Instead, these steps refer to checking a battery level when the key switch is OFF.

The Examiner asserted that the Gillespie reference teaches a power control unit for a multi media system, while the Hirano reference teaches a remote entry system with a unique code signal. Without acquiescing to the Examiner's assertion, however, it is submitted that the Gillespie reference and the Hirano reference also do not disclose or suggest an auxiliary battery control section for booting up a computer by starting a power supply from *the auxiliary battery to the computer*, and a power source switching section for stopping a power supply from the auxiliary battery to the computer and for starting a power supply from a main power source to the computer when the ignition key is switched to the ON position during power supply from the auxiliary battery. Therefore, one of ordinary skill in the art would not be motivated by these references so as to modify the Kirkhart reference and/or the Amano reference so as to obtain the invention recited in amended independent claims 1 and 5-9. Accordingly, it is respectfully submitted that amended independent claims 1 and 5-9, as well as the claims that depend therefrom, are clearly patentable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. However, if the Examiner should have any comments or suggestions to help speed the prosecution of this application, the Examiner is requested to contact the Applicant's undersigned representative.

Respectfully submitted,

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